

RESULTS OF THE 2002 HAWAII TRUCK BED USE SURVEY

Report to Motor Vehicle Safety Office
Department of Transportation
State of Hawaii

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I. INTRODUCTION

This report contains the results of the 2002 Hawaii truck bed use study. In 1997 a law (HRS§291-14) was passed prohibiting the transport of children 12 years old and younger in the bed or load-carrying area of a pickup truck, except in emergency situations or where it is officially authorized (e.g., parades). It also prohibits the transport of any adult occupant(s) in the bed if a seat is available in the cab of the truck. Data were collected and analyzed by the University of Hawaii's Department of Urban and Regional Planning (DURP). Field surveys were conducted at 136 sites on Oahu, Maui, Hawaii, and Kauai between the months of January and March of 2002.

II. SUMMARY

The results of the 2002 Truck Bed Use Survey indicate that 48 (0.67%) of the 7,122 observed pickup trucks had occupants in the cargo area, compared to the 115 trucks (1.60%) observed in 2001. Additionally, 14 (0.20%) of the observed trucks had children in the bed, while 4 (0.06%) had occupants in the cargo area and a single operator in the cab of the vehicle. Figures 1 and 2 depict the findings.

FIGURE 1
OVERALL TRUCK BED USE BY YEAR, 1998-2002

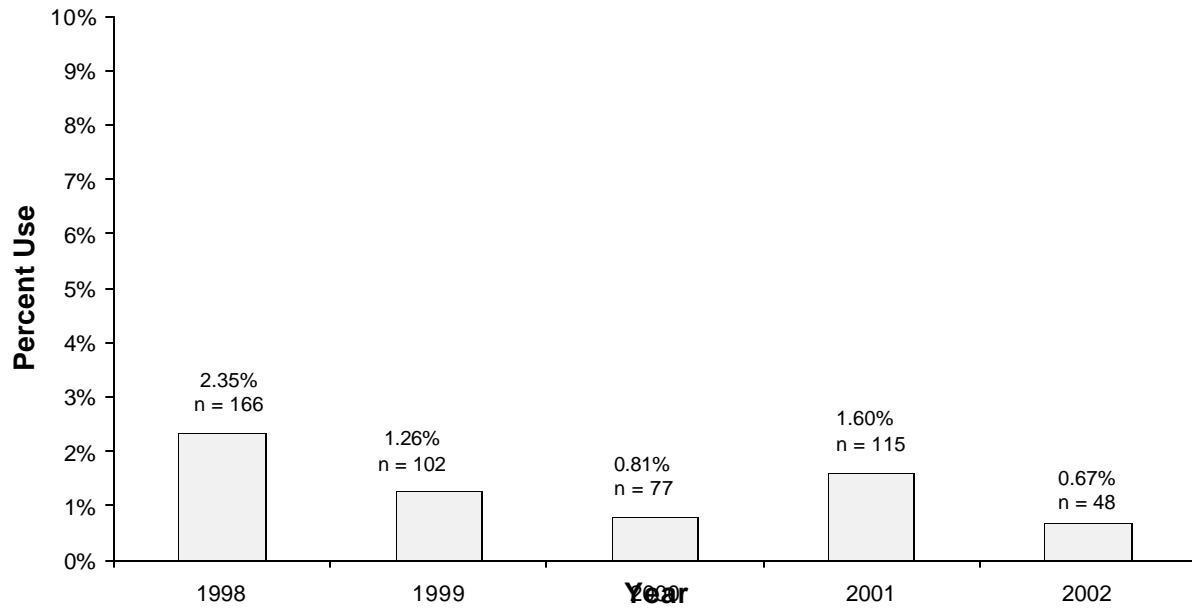


FIGURE 2
TRUCK BED USE -- COMPLIANCE AND NONCOMPLIANCE, 2002

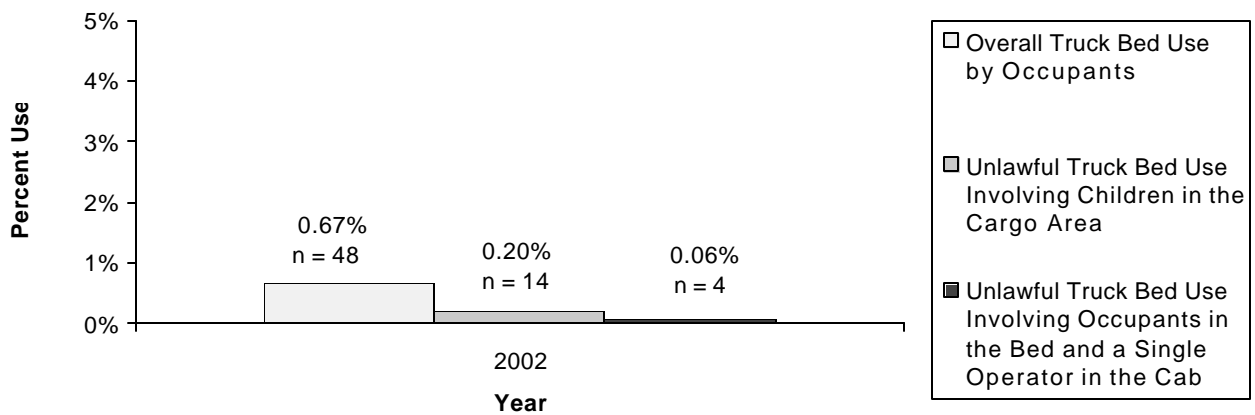
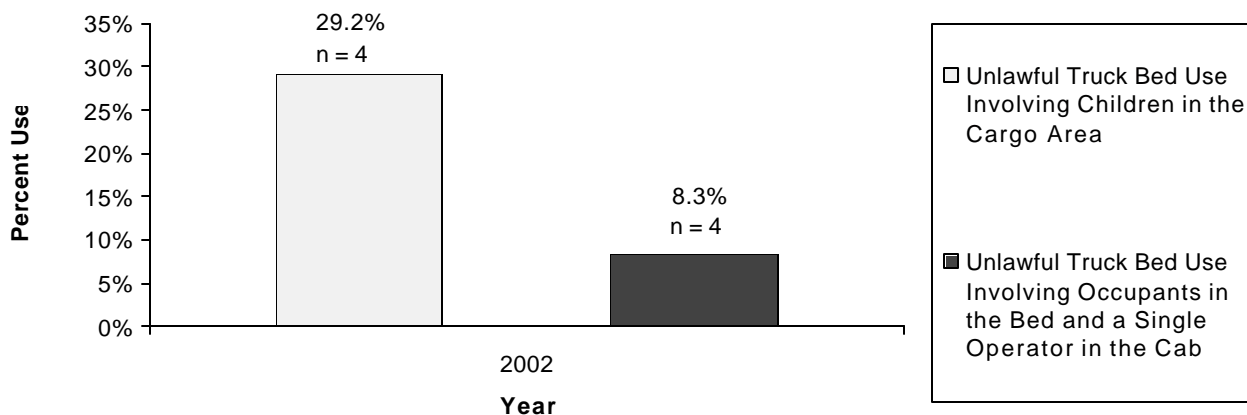


Figure 3 illustrates that of the 48 trucks with cargo area passengers, 29.2% unlawfully carried children in the cargo area and 8.3% transported occupants in the truck bed with a single operator in the cab.

FIGURE 3
TRUCK BED USE -- COMPLIANCE AND NONCOMPLIANCE, 2002



III. METHODOLOGY

The methodology used for this study is the same as the one used in the previous surveys. For the 2002 survey, truck bed use was recorded at 136 sites throughout Hawaii (66 sites on Oahu, 24 on Maui, 24 on Hawaii, and 22 on Kauai). Observation teams spent approximately 40 to 50 minutes at each site during daylight hours and recorded truck bed occupancy. One observer identified the belt status of front seat cab occupants, the number of occupants in the bed, and indicated the number of minors in the bed if any were present. A second observer entered the data into a Palm handheld computer. Previously used paper survey forms were phased out. The recorded data were then entered into the database at DURP and analysed using SAS, a statistical software package.

IV. FINDINGS

The analysis is divided into two types of illegal truck bed use:

- (1) children (12 years old and younger) in the cargo area; and
- (2) a single operator in the cab and adult occupants in the truck bed.

(1) CHILDREN 12 YEARS OLD AND YOUNGER IN THE CARGO AREA

Figure 4 shows the 2002 truck bed use rates on the four main Hawaiian islands, as well as the truck bed use rate by minors. The results of the 2002 survey show that the island of Kauai had the highest overall truck bed use rate (1.22%), as well as the highest illegal truck bed occupancy rate involving a single occupant in the cab (0.36%). Maui had highest number of observations of illegal truck bed use rate

involving children in the cargo area (0.69%). Few truck bed occupants were observed on Hawaii (0.18%). No cases of unlawful truck bed use involving a single occupant in the cab were observed for the islands of Hawaii or Maui (0.00%).

FIGURE 4
TRUCK BED USE RATE BY ISLAND, 2002
(OVERALL AND CHILDREN)

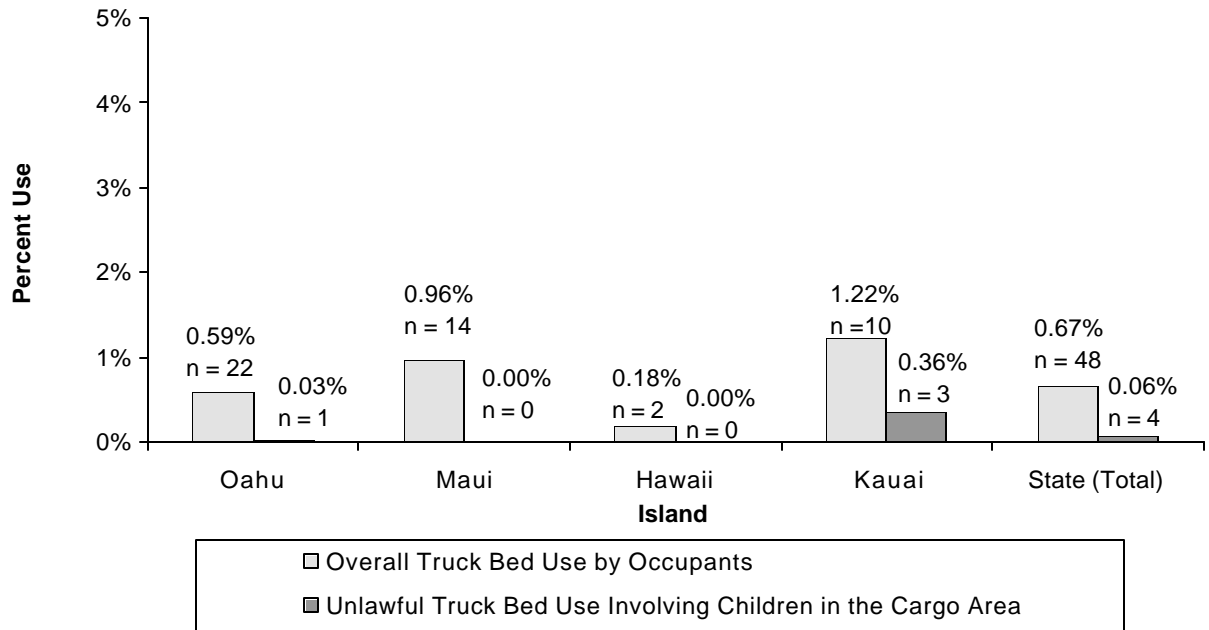


Table 1 characterizes truck bed use rates by island.

TABLE 1
TRUCK BED USE BY ISLAND, 2002

ISLAND	Total Number of Trucks Observed	OVERALL TRUCK BED USE BY OCCUPANTS		UNLAWFUL TRUCK BED USE INVOLVING CHILDREN	
		Number of Trucks with Occupants in the Bed	Percent of Trucks with Occupants in the Bed	Number of Trucks with Children in the Bed	Percent of Trucks with Children in the Bed
Oahu	3,735	22	0.59%	1	0.03%
Maui	1,457	14	0.96%	0	0.00%
Hawaii	1,107	2	0.18%	0	0.00%
Kauai	823	10	1.22%	3	0.36%

Total	7,122	48	0.67%	4	0.06%
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Table 2 indicates that truck bed use and truck bed use violations tend to occur at a higher frequency in low volume sites. In addition, a higher proportion of truck bed use was observed at lower speed limits (between 25 to 34 mph) and under one-lane conditions. No unlawful truck bed use pertaining to children was observed on Maui and Hawaii during this year's observations.

TABLE 2
TRUCK BED USE BY FACTOR, 2002

FACTOR	Total Number of Trucks Observed	OVERALL TRUCK BED USE BY OCCUPANTS		UNLAWFUL TRUCK BED USE INVOLVING CHILDREN	
		Number of Trucks with Occupants in the Bed	Percent of Trucks with Occupants in the Bed	Number of Trucks with Children in the Bed	Percent of Trucks with Children in the Bed
TIME PERIOD					
7:00 AM - 10:59AM	2,288	14	0.61%	6	0.26%
11:00 AM - 2:59PM	1,548	12	0.78%	2	0.13%
3:00 PM - 6:59 PM	3,286	22	0.67%	6	0.18%
VOLUME					
Low Volume	467	6	1.28%	1	0.21%
High Volume	6,655	42	0.63%	13	0.20%
WEATHER					
Sunny	3,843	29	0.75%	10	0.26%
Partly Cloudy	2,385	17	0.71%	2	0.08%
Cloudy	894	2	0.22%	2	0.22%
SPEED					
Below 25 MPH	692	2	0.29%	1	0.14%
25 - 34 MPH	1,063	18	1.69%	3	0.28%
35 - 44 MPH	2,716	9	0.33%	3	0.11%
45 - 54 MPH	1,939	17	0.88%	7	0.36%
55 or more MPH	712	2	0.28%	0	0.00%
LANES					
One Lane	2,915	31	1.06%	11	0.38%
Two Lanes	2,123	9	0.42%	2	0.09%
Three Lanes	1,795	8	0.45%	1	0.06%

WEEK					
Weekday	4,040	32	0.79%	5	0.12%
Weekend	3,082	16	0.52%	9	0.29%

(2) CASES INVOLVING A SINGLE OPERATOR IN THE CAB

Figure 5 shows the 2002 truck bed use rates on the four main Hawaiian islands. The highest percentage of truck bed use observations in proportion to the number of trucks observed was made on Kauai (1.22%), followed by Maui (0.96%), Oahu (0.59%), and Hawaii (0.18%). Truck bed use violations involving occupants in the truck bed area and a single operator in the cab decreased from the previous year.

FIGURE 5
TRUCK BED USE RATE BY ISLAND, 2002
(OVERALL AND WITH SINGLE OPERATOR IN CAB)

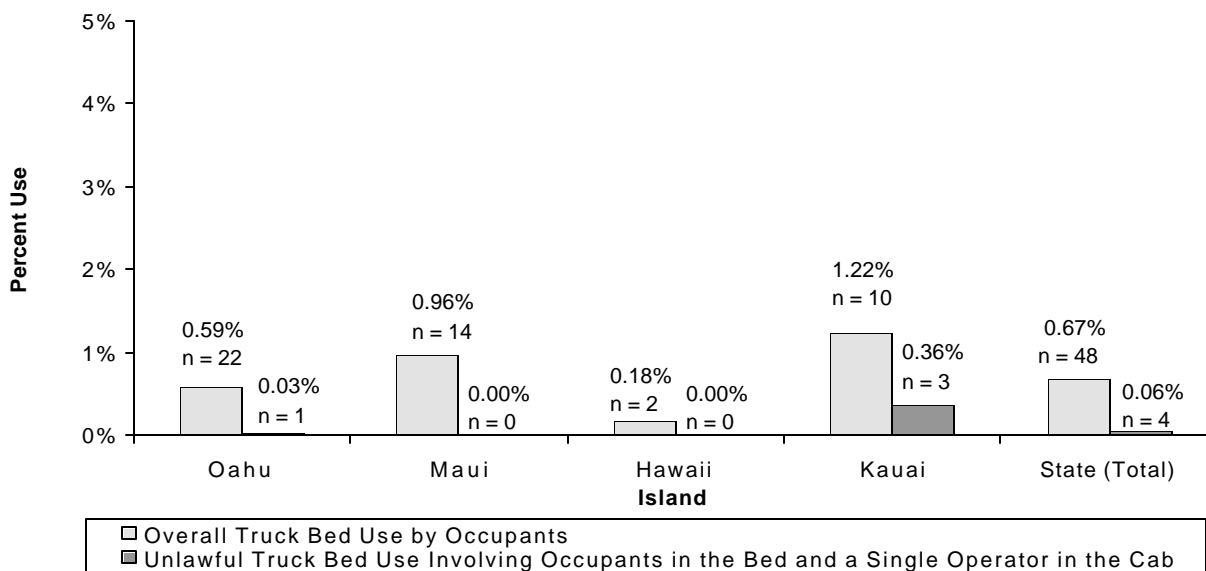


Table 3 shows the characteristics of truck bed use rates for each island.

TABLE 3
TRUCK BED USE BY ISLAND, 2002

ISLAND		OVERALL TRUCK BED USE	UNLAWFUL TRUCK BED USE
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	Total Number of Trucks Observed	BY OCCUPANTS		INVOLVING A SINGLE OPERATOR IN THE CAB	
		Number of Trucks with Occupants in the Bed	Percent of Trucks with Occupants in the Bed	Number of Trucks with Occupants in the Bed	Percent of Trucks with Occupants in the Bed
Oahu	3,735	22	0.59%	1	0.03%
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Hawaii	1,107	2	0.18%	0	0.00%
Kauai	823	10	1.22%	3	0.36%
Total	7,122	48	0.67%	4	0.06%

Truck bed use is influenced by a number of factors. Table 4 illustrates these findings.

TABLE 4
TRUCK BED USE BY FACTOR, 2002

FACTOR	Total Number of Trucks Observed	OVERALL TRUCK BED USE BY OCCUPANTS		UNLAWFUL TRUCK BED USE INVOLVING A SINGLE OPERATOR IN THE CAB	
		Number of Trucks with Occupants in the Bed	Percent of Trucks with Occupants in the Bed	Number of Trucks with Occupants in the Bed	Percent of Trucks with Occupants in the Bed
TIME PERIOD					
7:00 AM - 10:59 AM	2,288	14	0.61%	0	0.00%
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WEEK					
Weekday	4,040	32	0.79%	4	0.10%
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V. CONCLUSION

The results of the 2002 truck bed use observations show that truck bed use decreased in 2002. The results show that 0.67% of all trucks observed in 2002 transported occupants in the bed. Overall, 0.20% of observed trucks had children in the bed illegally and 0.06% of trucks had occupants in the bed with a single operator in the vehicle cab.

The findings of the 2002 survey lead to several important recommendations:

- (1) Further inquiry into the relationship between the truck bed use rate and rider and driver characteristics (such as gender, income level, socio-economic status, and age) should be pursued.
- (2) In order to curb illegal truck bed occupancy—especially among minors—programs of education and enforcement need to be developed and implemented.

APPENDIX